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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,665	11/27/2000	Masaaki Higashida	MAT-8014US	5725

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EXAMINER	
MILLS, DONALD L	

ART UNIT	PAPER NUMBER
2662	8

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/646,665	HIGASHIDA ET AL.	
	Examiner	Art Unit	
	Donald L Mills	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-16* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6,7*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed September 20, 2000 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

2. The disclosure is objected to because of the following informalities:

Page 8, line 7, "004" should be corrected to – 3004 –. Appropriate correction is required.

Claim Objections

3. Claims 1 and 14 are objected to because of the following informalities:

Page 21, claim 1, line 7, "patters" should be corrected to – patterns –.

Page 23, claim 14, line 8, "patters" should be corrected to – patterns –. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 2, 7, 14, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 2, 7, and 14, the claims specify ***types*** *of variable patterns* (For example, see page 21, claim 1, line 6.) It is unclear what the term *type* is intended to convey. For the purpose of this examination, the examiner will ignore the term *type*.

Regarding claim 16, the claim specifies *each block* (Page 24, line 6,) however it is unclear as to which *block* this refers. Further clarification is necessary. For the purpose of this examination, the examiner will interpret this line as *each transmission header includes...*

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, and 12-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Ayerst et al. (US 5,712,624), hereinafter referred to as Ayerst.

Regarding claims 1 and 14, Ayerst discloses a method and apparatus for receiver synchronization, which comprises:

Generating (Claim 1)/Means for generating (Claim14) a fixed pattern comprising 'm' words (Referring to Figure 7, ending with seven consecutive 1's. See column 17, lines 30-31.)

Generating (Claim 1)/Means for generating (Claim14) plural variable patterns, each pattern comprising 'n' words (Referring to Figure 7, a pseudo random pattern is generated, comprising 128-bits or 16 bytes. See column 17, lines 28-30.)

Generating (Claim 1)/Means for generating (Claim14) a sync pattern comprising 'q' words formed by combining the fixed pattern and the variable pattern (Referring to Figure 7, a 128-bit synchronization preamble packet **650** is generated, which comprises a pseudo random pattern and seven consecutive 1's. See column 17, lines 28-31.)

Controlling (Claim 1)/Means for Controlling (Claim 14) the step for making a bit structure included in at least two consecutive packets include different variable patterns (Referring to Figure 7, synchronization preamble packet **650** followed by symbol synchronization adjustment segment **612**, which inherently comprise different bit patterns.)

Regarding claim 2, Ayerst discloses *wherein the variable pattern comprises a plurality of words, and the plural types of variable patterns are made by changing an order of the words* (Referring to Figure 7, pseudorandom pattern comprises 128-bits, which inherently comprises patterns made by changing the order of the bytes. See column 17, lines 28-30.)

Regarding claim 12, Ayerst discloses *the method including a step of detecting a sync* (Referring to Figure 7, indicating when a transmission of a message is scheduled to begin. See column 16, lines 31-33.)

Regarding claims 13 and 15, Ayerst discloses a method and apparatus comprising:

Detecting (Claim 13)/Means for detecting (Claim 15) a sync for examining both of a fixed pattern and a variable pattern of a data received (Referring to Figure 7, indicating when a transmission of a response message is scheduled to begin, inherently comprising a

pseudorandom and fixed pattern of seven 1's. See column 16, lines 30-33 and column 17, lines 29-31.)

Securing (Claim 13)/Means for securing (Claim 15) a sync for examining only the fixed pattern (Referring to Figure 7, during synchronization the fixed pattern of seven 1's is inherently examined individually in order to determine the value of each bit. See column 17, lines 34-35.)

Wherein step (a) processes the data until the sync is secured and step (b) processes the data after the sync is secured (Referring to Figures 7, the data unit comprises a synchronization preamble packet **650**, inherently processed until the synchronization is established, and three data packets **625**, inherently processed after the last of the seven consecutive 1's. See column 16, lines 40-41 and 43-45.)

Regarding claim 16, Ayerst discloses *adding a transmission header of 's * k' words, wherein the transmission header is divided into 'k' pieces of blocks at intervals of every 's' word* (Referring to Figure 7, data unit **312** comprises a synchronization preamble packet **650**, comprising one hundred twenty eight bits or 16-bytes, which repeats for every data unit. See column 17, lines 29-30.) And, *each transmission header includes the fixed pattern of 'm' words at a top thereof* (Referring to Figure 7, the synchronization preamble packet **650** ends with seven consecutive 1's. See column 17, lines 30-31,) *the fixed pattern employs a pattern other than patterns used in the block header* (Referring to Figure 7, the seven consecutive 1's inherently differs from the six bit transmitter ramp up segment **611** by 1-bit. See column 17, lines 14-15.)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 3-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Ayerst et al. (US 5,712,624), hereinafter referred to as Ayerst.

Regarding claim 3 as explained above in the rejection statement of claim 1, Ayerst discloses all of the claim limitations of claim 1 (parent claim). Ayerst does not disclose *wherein the fixed pattern comprises three words.*

Ayerst teaches ending the synchronization preamble packet **650** with seven consecutive 1's (See column 17, lines 30-31.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement twenty-four consecutive 1's in the synchronization preamble packet of Ayerst. One of ordinary skill in the art would have been motivated to do so in order to simplify the preamble packet and reduce processing time of the pseudo random pattern generator.

Regarding claim 4 as explained above in the rejection statement of claim 1, Ayerst discloses all of the claim limitations of claim 1 (parent claim). Ayerst does not disclose *wherein the three words include 'eb', 'cb' and 'aa', expressed in a hexadecimal notation.*

Ayerst teaches ending the synchronization preamble packet **650** with seven consecutive 1's, equivalent to 7F in hexadecimal (See column 17, lines 30-31.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine three different fixed patterns in the synchronization preamble packet of Ayerst. One of ordinary skill in the art would have been motivated to do so in order to simplify the preamble packet and reduce processing time of the pseudo random pattern generator.

Regarding claim 5 as explained above in the rejection statement of claim 1, Ayerst discloses all of the claim limitations of claim 1 (parent claim). Ayerst does not disclose *wherein the variable pattern comprises five words.*

Ayerst teaches a one hundred and twenty eight-bit, 16-bytes, synchronization preamble packet **650** (See column 17, lines 28-29.) Ayerst further teaches optimizing throughput by keeping messages as short as possible (See column 19, lines 26-28.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the length of the synchronization preamble packet to five pseudorandom bytes. One of ordinary skill in the art would have been motivated to so in order to optimize system throughput.

Regarding claim 6 as explained above in the rejection statement of claim 1, Ayerst discloses all of the claim limitations of claim 1 (parent claim). Ayerst further discloses *words including '4c', 'ea', 'cd', '7a' and '81', expressed in a hexadecimal notation* (Referring to Figure 7, one hundred and twenty eight-bit, 16-bytes, synchronization preamble packet **650**, which comprises a pseudo random pattern generated by an eight bit generator, inherently comprises the previously mentioned bytes (See column 17, lines 28-30.) Ayerst does not disclose *five words.*

Ayerst teaches a one hundred and twenty eight-bit, 16-bytes, synchronization preamble packet **650** (See column 17, lines 28-29.) Ayerst further teaches optimizing throughput by keeping messages as short as possible (See column 19, lines 26-28.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the length of the synchronization preamble packet to five pseudorandom

bytes. One of ordinary skill in the art would have been motivated to so in order to optimize system throughput.

10. Claims 8-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Ayerst et al. (US 5,712,624), hereinafter referred to as Ayerst, in view of Lawrence et al. (US 6,208,666 B1), hereinafter referred to as Lawrence.

Regarding claim 8 as explained above in the rejection statement of claim 1, Ayerst discloses all of the claim limitations of claim 1 (parent claim), Ayerst does not disclose *wherein the packet data is a digital video signal.*

Lawrence teaches system and method for maintaining timing synchronization in a digital video network where digital video enters customer premises **1300** from central office **400** via a wireless communication channel **16** (See Figure 16, column 22, lines 8-9 and 16.) Ayerst teaches that in a data communication system it is desirable to use the shortest possible synchronization preamble for a data packet to maximize throughput (See column 1, lines 16-20.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement synchronization preamble optimization of Ayerst in the system of Lawrence. One of ordinary skill in the art would have been motivated to so in order to utilize the full bandwidth capacity of the network.

Regarding claim 9 as explained above in the rejection statement of claim 1, Ayerst discloses all of the claim limitations of claim 1 (parent claim), Ayerst does not disclose *wherein the digital video signal is a compressed signal.*

Lawrence teaches system and method for maintaining timing synchronization in a digital video network where compressed digital video enters customer premises **1300** from central

office **400** via a wireless communication channel **16** (See Figure 16, column 22, lines 8-9 and 15-16.) Ayerst teaches that in a data communication system it is desirable to use the shortest possible synchronization preamble for a data packet to maximize throughput (See column 1, lines 16-20.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement synchronization preamble optimization of Ayerst in the system of Lawrence. One of ordinary skill in the art would have been motivated to so in order to utilize the full bandwidth capacity of the network.

Regarding claim 10 as explained above in the rejection statement of claim 1, Ayerst discloses all of the claim limitations of claim 1 (parent claim), Ayerst does not disclose *wherein the compressed signal is a DIF stream.*

Lawrence teaches system and method for maintaining timing synchronization in a digital video network where compressed digital video stream enters customer premises **1300** from central office **400** via a wireless communication channel **16** (See Figure 16, column 22, lines 8-9 and 15-16.) Ayerst teaches that in a data communication system it is desirable to use the shortest possible synchronization preamble for a data packet to maximize throughput (See column 1, lines 16-20.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement synchronization preamble optimization of Ayerst in the system of Lawrence. One of ordinary skill in the art would have been motivated to so in order to utilize the full bandwidth capacity of the network and support digital playback devices for video-on-demand services.

Regarding claim 11 as explained above in the rejection statement of claim 1, Ayerst discloses all of the claim limitations of claim 1 (parent claim), Ayerst does not disclose *wherein the packet data is transmitted through an ATM transmission line.*

Lawrence teaches system and method for maintaining timing synchronization in a digital video network where communication is performed over connection **112** with ATM switch **102** (See Figure 4, column 7, lines 26-27.) Ayerst teaches that in a data communication system it is desirable to use the shortest possible synchronization preamble for a data packet to maximize throughput (See column 1, lines 16-20.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement synchronization preamble optimization of Ayerst in the system of Lawrence. One of ordinary skill in the art would have been motivated to so in order to utilize the full bandwidth capacity of the network for Internet traffic.

Allowable Subject Matter

11. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Applicant is advised that should claim 13 be found allowable, claim 15 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing,

despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 703-305-7869. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Donald L Mills

DLM

December 9, 2003

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